

REPORT DOCUMENTATION PAGE				Form Approved OMB No. 0704-0188	
Public reporting burden for this collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing this collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden to Department of Defense, Washington Headquarters Services, Directorate for Information Operations and Reports (0704-0188), 1215 Jefferson Davis Highway, Suite 1204, Arlington, VA 22202-4302. Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to any penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number. PLEASE DO NOT RETURN YOUR FORM TO THE ABOVE ADDRESS.					
1. REPORT DATE (DD-MM-YYYY) 13-02-2006		2. REPORT TYPE FINAL		3. DATES COVERED (From - To)	
4. TITLE AND SUBTITLE An Effects-based Approach to Global Special Operations				5a. CONTRACT NUMBER	
				5b. GRANT NUMBER	
				5c. PROGRAM ELEMENT NUMBER	
6. AUTHOR(S) Thomas N. McFadyen, Major, U.S. Army				5d. PROJECT NUMBER	
				5e. TASK NUMBER	
				5f. WORK UNIT NUMBER	
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) Joint Military Operations Department Naval War College 686 Cushing Road Newport, RI 02841-1207				8. PERFORMING ORGANIZATION REPORT NUMBER	
9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES)				10. SPONSOR/MONITOR'S ACRONYM(S)	
				11. SPONSOR/MONITOR'S REPORT NUMBER(S)	
12. DISTRIBUTION / AVAILABILITY STATEMENT Distribution Statement A: Approved for public release; Distribution is unlimited.					
13. SUPPLEMENTARY NOTES A paper submitted to the faculty of the NWC in partial satisfaction of the requirements of the JMO Department. The contents of this paper reflect my own personal views and are not necessarily endorsed by the NWC or the Department of the Navy.					
14. ABSTRACT <p>Effects-Based Operations (EBO) is an operational concept under implementation at the Geographical Combatant Commander (GCC) level. Within each geographical region, EBO focuses on the linkages of systems and the structure of a nation-state and how these systems can be affected. EBO is a valid concept for joint military operations, but the Political, Military, Economic, Social, Infrastructure, and Information (PMESII) construct utilized during the Systems of Systems Analysis (SoSA) does not facilitate and is not integrated into the Joint SOF Commander's fight against global terrorism. Specifically, the Operational Net Assessment (ONA) process within EBO does not take into account the geographical boundaries dividing the GCC or the transient and non-physical aspects that support global counterterrorism operations. Although the current EBO construct incorporates some considerations of terrorist activities within these nation-states, it does not allow for the complete analysis of global terrorism networks.</p> <p>This paper examines the origins and initial attempts to conduct Effects-Based Operations. It then outlines the current utilization of EBO at the geographical combatant commander level and why that concept of EBO does not support SOF. Finally it identifies proposed changes to the PMESII structure; establishment of an ONA process; and the integration of these modifications into the SOF community.</p>					
15. SUBJECT TERMS SOF; Terrorism; Terrorists; Special Operations					
16. SECURITY CLASSIFICATION OF:			17. LIMITATION OF ABSTRACT	18. NUMBER OF PAGES 26	19a. NAME OF RESPONSIBLE PERSON Chairman, JMO Dept
a. REPORT UNCLASSIFIED	b. ABSTRACT UNCLASSIFIED	c. THIS PAGE UNCLASSIFIED			19b. TELEPHONE NUMBER (include area code) 401-841-3556

**NAVAL WAR COLLEGE
Newport, RI**

AN EFFECTS-BASED APPROACH TO GLOBAL SPECIAL OPERATIONS

By

**Thomas N. McFadyen
Major, U.S. Army**

A paper submitted to the faculty of the Naval War College in partial satisfaction of the requirements of the Department of Joint Military Operations.

The contents of this paper reflect my own personal views and are not necessarily endorsed by the Naval War College or the Department of the Navy.

Signature: _____ *original signed* _____

(13 February 2006)

Abstract

Effects-Based Operations (EBO) is an operational concept under implementation at the geographical combatant commander (GCC) level. Within each geographical region, EBO focuses on the linkages of systems and the structure of a nation-state and how these systems can be affected. EBO is a valid concept for joint military operations, but the Political, Military, Economic, Social, Infrastructure, and Information (PMESII) construct utilized during the Systems of Systems Analysis (SoSA) does not facilitate and is not integrated into the Joint SOF Commander's fight against global terrorism. Specifically, the Operational Net Assessment (ONA) process within EBO does not take into account the geographical boundaries dividing the GCC or the transient and non-physical aspects that support global counterterrorism operations. Although the current EBO construct incorporates some considerations of terrorist activities within these nation-states, it does not allow for the complete analysis of global terrorism networks.

This paper examines the origins and initial attempts to conduct Effects-Based Operations. It then outlines the current utilization of EBO at the geographical combatant commander level and why that concept of EBO does not support SOF. Finally it identifies proposed changes to the PMESII structure; establishment of an ONA process; and the integration of these modifications into the SOF community.

Table of Contents

Introduction	1
The Origin of Effects-Based Operations	2
The Emerging Concept of Effects-Based Operations	3
Why Doesn't Effects-Based Operations support the SOF Commander?	8
How Can Effects-Based Operations Change to Support the SOF Commander?	10
Modify Effects-Based Operations to Focus on Global Terrorism Networks	11
Focus Effects-Based Operations on Global Terrorism Networks	13
Create an Effects-Based Operations Cell within SOF	14
Integrate SOF Effects-Based Operations into JIPB	15
Implement SOF Effects-Based Operations Globally	18
Problems and Friction	19
Conclusion	20
Bibliography	22

List of Illustrations

Figure	Title	Page
Figure 1.	An Effects-based Approach.	5
Figure 2.	Systems of Systems Analysis.	7
Figure 3.	Transition to Terrorism Functions.	12
Figure 4.	Systems of Systems Analysis of Terrorist Networks.	13
Figure 5.	EBO Cell from the SJFHQ Information Superiority Group.	15
Figure 6.	Hierarchal Versus Systems Structure.	17
Figure 7.	EBO Integration into JIPB.	18

Effects-Based Operations (EBO) is an operational concept under implementation at the Geographical Combatant Commander (GCC) level. Within each geographical region, EBO focuses on the linkages of systems and the structure of a nation-state and how these systems can be affected. *EBO is a valid concept for joint military operations, but the Political, Military, Economic, Social, Infrastructure, and Information (PMESII) construct utilized during the Systems of Systems Analysis (SoSA) does not facilitate and is not integrated into the Joint Special Operations Force (SOF) Commander's fight against global terrorism. Specifically, the Operational Net Assessment (ONA) process within EBO does not take into account the geographical boundaries dividing the GCC or the transient and non-physical aspects that support global counterterrorism operations.* Although the current EBO construct incorporates some considerations of terrorist activities within these nation-states, it does not allow for the complete analysis of global terrorism networks. In order to maximize EBO, the SOF Commander must make changes to the PMESII structure; establish an ONA process; and integrate these modifications into the SOF community.

Since the unforeseen attacks on September 11th, 2001, the President directed the employment of the national assets of the United States to “defeat terrorist organizations of global reach by attacking their sanctuaries; leadership; command, control, and communications; material support; and finances.”¹ Our current adversary is not a nation-state, but a global network of terrorist organizations that is not confined by geographical boundaries, rules, or restrictions. In order to meet this global terrorist threat, we must adapt our operations to identify, leverage, attack, and assess the effects of actions against our adversary's vulnerabilities. EBO conducted by the SOF community will effectively engage this terrorist threat within its own parameters. This document is not an evaluation of the

¹ National Strategy for Combating Terrorism, (Washington DC: March 2005) 1.

validity of EBO, but rather an examination of how select portions of the EBO process should be adapted to facilitate SOF commanders. It identifies a range of recommended changes and solutions through the evaluation of doctrinal manuals, emerging concepts, and research papers by senior military officers and civilians.

The Origin of Effects-Based Operations

The origin of EBO relates to the creation of air power and the theoretical concepts of how it is best employed. Early in the twentieth century, strategists contemplated how to affect the vulnerabilities of industrialized nations by using air power to destroy infrastructure, leadership, and economic systems.² These strategists, including Douhet, Mitchell, and Tedder, believed the “proper selection of vital targets in the industrial, economic, and social structure of a modern industrial nation, and their subsequent destruction by air attack, can lead to fatal weakening of an industrial enemy nation.”³ During World War II, it is widely published that the allied air forces targeted the German industrial and manufacturing complex with air attack. Within the air campaign, the allies targeted ball bearing factories, submarine production, and the petroleum refineries in order to focus their effects to deny the German military specifically of tanks, submarines, and fuel.⁴ Though capabilities to assess the effectiveness of the campaign were too immature to call the new approach a success, the aerial bombing campaign over Europe demonstrated an early understanding of the linkages between action, effect, and assessment.⁵

² David A. Deptula, “Effects-Based Operations: Change in the Nature of Warfare,” Defense and Airpower Series, (2001): 7.

³ Ibid.

⁴ Philip S. Melinger, “The Origins of Effects-Based Operations,” Joint Force Quarterly, 35 (October 2004): 119.

⁵ Ibid., 117. In Melinger’s article he describes how the US Army Air Corps Tactical School studied the effects of the Great Depression on the fragile economies of the world. Nations were toppled not by military power, but the failure of systems within their infrastructure. The officers furthered studied the fragility of the power grids and infrastructure of the United States North East identifying vulnerabilities at key point in a system such as rail lines, power plants and oil refineries. With the onset of World War II, the air war planners tried to identify and

Post World War II military planners have increasingly considered the effects of military operations on an adversary and the employment of weapons against high value targets and vulnerabilities. With only small incremental advances in military technology between World War II and the 1980s, the next enabler for operations with an effects-based approach emerged with the development of satellite photography, stealth technology, and precision weaponry.⁶ This technologically advanced weaponry permitted a single stealth aircraft to achieve the same result that would have required 1,000 sorties in World War II.⁷ The consideration of military effects and advanced technology further developed with the implementation of “Parallel Warfare” during the air campaign in Gulf War I.⁸ “Parallel Warfare” essentially constitutes identifying and attacking the key points in an enemy’s military and infrastructure systems simultaneously to affect the destruction of his ability to wage war.⁹ Thus within “Parallel Warfare” the military focuses resources on servicing an

target vulnerabilities in the German economy that could be specifically targeted to disable the German military. An example used was if the Allied planners wanted to prevent the German Army from counter attacking on the D-Day beach assault, then they must not allow the movement of German armor divisions. This could be accomplished with a scalable amount of resources. Either bomb all of the German armor forces in the field, bomb the rail roads that would support their movement, or you could create the same effect by destroying key bridges and infrastructure that are required to move armor divisions. In theory, the latter would require the least amount of resources and still not allow for a counter attack by German armor forces.

⁶ David A. Deptula, “Effects-Based Operations: Change in the Nature of Warfare,” Defense and Airpower Series, (2001): 10.

⁷ Ibid., 8.

⁸ Ibid., 3. “The construct of warfare employed during the Gulf War air campaign has become known as Parallel Warfare, and was based upon achieving specific effects, not absolute destruction of target list. The term parallel comes from basic electrical circuit design. Anyone experiencing the frustrations of Christmas lights on a series circuit versus a parallel circuit will recognize the analogy. In a series circuit ... when the switch closes, electrons flow from the battery to the light bulbs. However, electricity must pass through each light before the next is lit—sequential flow. In the parallel circuit ... when the switch closes electricity reaches all the lights virtually at the same time—simultaneous flow.” During the first Gulf War, advances in stealth technology and precision weapons allowed air planners to conduct Parallel Warfare against the Iraqi military by striking high value and leadership targets on the first day of the war rather than having to sequentially dismantle the military infrastructure in order to attack with large packages of aircraft. Parallel Warfare was utilized to achieve a decisive effect against Iraqi military forces and the regime without needlessly destroying infrastructure and population centers.

⁹ Ibid., 3.

adversary's valuable nodes, without diverting assets to unimportant targets.¹⁰ The effects of "Parallel Warfare" synthesized a combination of effects-based targeting and modern technology which allowed simultaneous attack of key nodes in the Iraqi systems. An example during this conflict was disabling an infrastructure system such as the Iraqi power grid without sequentially destroying the entire network of power stations. The fault of "Parallel Warfare" and its intended military effect is that in many cases an adversary can find a work-around solution to the effected node.¹¹ A truly effects-based approach to operations would require a multilateral approach from several of the instruments of national power to defeat an adversary's system through different methods.

The Emerging Concept of Effects-Based Operations

Many operational planners equate the current doctrinal construct outlined in JP 3-0 Joint Operations as an effects-based process because it incorporates second and third order effects in the military planning cycle.¹² An example of military consideration of effects is identified within the Joint Fire Coordination Center as, "the function of joint fire support binds fire support resources together so the multiple effects of each asset are integrated and synchronized to support the commander's intent and concept of operations."¹³ However, these second and third order effects are focused primarily against a nation's military apparatus and do not fully consider intangible effects not associated with the destruction of

¹⁰ Ibid., 3.

¹¹ Davis, David E., <david.davis@nwc.navy.mil> "Van Riper and Deptula e-mails" [Email to Thomas McFadyen <thomas.mcfadyen@nwc.navy.mil>] 31 January 2006. Within his email, Van Riper describes the difficulty with controlling the human element of a system, "let me say that your description of an approach based on "control of the enemy" demonstrates, at least to me, your lack of understanding of non-linear or structurally complex systems. Such systems are inherently not subject to control. A living, breathing enemy constitutes such a system."

¹² Joint Chiefs of Staff, Doctrine for Joint Operations, Joint Pub 3-0 (Washington, DC: 10 September 2001), III-42.

¹³ Ibid.

military assets.¹⁴ The Joint Operations Concept (JOpsC) envisions a methodology of EBO that includes the interagency process as well as the effect of military weapon systems.¹⁵ This EBO concept is currently being implemented within the GCCs. It analyzes the systems within an adversary nation that support its objectives and incorporates all US elements of national power into creating an effect that moves the adversary towards our endstate.¹⁶

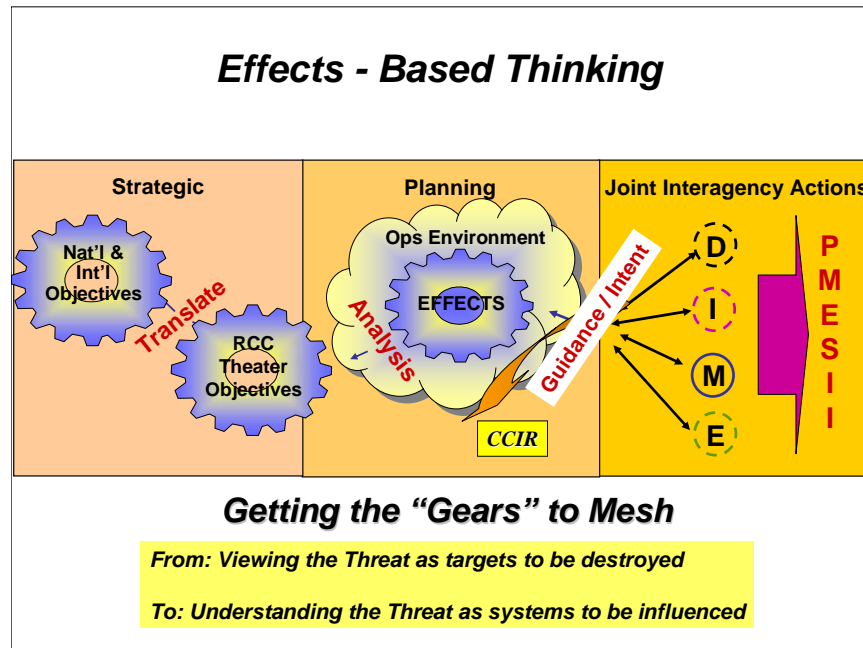


Figure 1. An Effects-based Approach¹⁷

¹⁴ The Effects Based Operations method of examining an adversary is more inclusive than just the national military apparatus. It is based on a Political, Military, Economic, Social, Infrastructure, and Information (PMESII) construct that allows for a complete analysis of a nation-state. This concept is further explained latter in the text.

¹⁵ Joint Forces Command, Operational Implications of Effects-based Operations (EBO), JWFC Doctrine Pamphlet 7 (Washington DC: 17 November 2004) 5. An Effects-based approach for joint operational concepts and joint functional concepts is identified in the Joint Staff's Joint Operations Concepts (JOpsC). This program is directed by the Secretary of Defense and includes references to the key aspects of the EBO construct such as a systems methodology of identifying links and nodes, the integrated application of national power instruments, and the importance of collaboration.

¹⁶ National Strategy for Combating Terrorism, (Washington, DC: February 2003), 29. In the National Strategy, the President describes the elements of national power not only to include the diplomatic, informational, military, and economic functions but also to include financial, law enforcement and intelligence aspects.

¹⁷ Joint Forces Command, Operational Implications of Effects-based Operations (EBO), JWFC Doctrine Pamphlet 7 (Washington DC: 17 November 2004) 7. "Figure 1 captures the key ideas of an effects-based approach within the operational environment and across the strategic, operational, and tactical levels."

An effects-based approach to operations aligns strategic objectives with operational effects and synchronizes these inputs into unified actions within the diplomatic, informational, military, and economic construct.¹⁸ This process begins by translating national, multinational, and regional objectives into a set of theater objectives within a combatant commander's area of responsibility (AOR).¹⁹ Aided by a systematic ONA, these objectives are analyzed by a combatant commander's staff to identify key nodes, relationships, strengths, and vulnerabilities of an adversary.²⁰ EBO conducts this analysis using a systems of systems framework that examines an adversarial nation-state as a multidimensional interrelated group of systems.²¹ Using the political, military, economic, social, infrastructure, and information (PMESII) construct, EBO examines the systems that allow a nation-state to function and identifies specific nodes to affect the systems.²² This effects-based analysis is conducted in a collaborative information environment (CIE) using modern technology and communications to link the expertise of the national military structure, academia, and industry for shared situational awareness and integrated input.²³

¹⁸ Ibid., 1. US Joint Forces Command definition for DIME is "Diplomatic, informational, military, and economic instruments of national power addressed in Joint Pub. 1 that are normally coordinated by the appropriate Executive Branch officials often with NSC assistance. They are the tools the US uses to apply its sources of power; including its human potential, economy, industry, science and technology, academic institutions, geography, and national will".

¹⁹ Ibid., 7.

²⁰ Ibid., 7. US Joint Forces Command definition for Operational Net Assessment is "the integration of people, processes, and tools that use multiple information sources and collaborative analysis to build shared knowledge of the adversary, the environment, and ourselves."

²¹ Ibid., 10. US Joint Forces Command definition of Systems of Systems Analysis is "an analytical process that holistically examines a potential adversary and /or operational environment as a complex, adaptive system, including its structures, behavior, and capabilities in order to identify and assess strengths, vulnerabilities, and interrelationships." SoSA attempts to identify, analyze, and relate the goals and objectives, organization, dependencies and inter-dependencies, external influences, weaknesses, vulnerabilities, and other aspects of the various nation-state systems.

²² Ibid., 7. US Joint Forces Command definition for PMESII is "Political, military, economic, social, infrastructure, and information systems in the context of the systems-of-systems analysis or sub-categories of a potential adversary". These PMESII effects are directly related to the achievement of national objectives outline from the national and combatant commander guidance.

²³ Ibid., 7. US Joint Forces Command definition for collaborative information environment is "a virtual aggregation of individual, organizations, systems, infrastructure and processes to create and share the data,

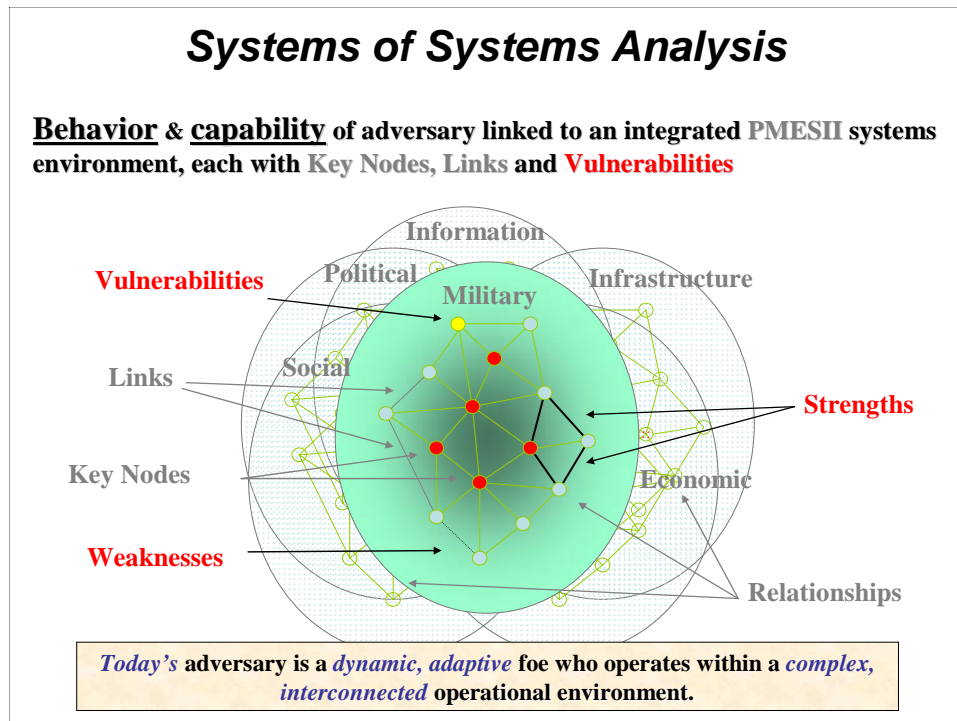


Figure 2. Systems of Systems Analysis.²⁴

The instruments of national power are then applied to each corresponding node in accordance with the commander's intent and the appropriate instrument of DIME.²⁵ The result is a holistic understanding of an adversary's systems and an integrated method to create change in an adversary through the actions of DIME. This methodology seeks to promote a synchronized, overlapping, and near simultaneously executed set of actions conducted by US military, interagency, and multinational forces.²⁶ The effects-based approach is operational at most of the GCC headquarters within the Standing Joint Force

information and knowledge needed to plan execute, and assess joint force operations". The CIE process uses a web-based portal and secure internet system as the basis for its information management.

²⁴ Joint Forces Command, Doctrinal Implications of Operational Net Assessment (ONA), JWFC Doctrine Pamphlet 4 (Washington DC: 24 February 2004) 10.

²⁵ Joint Forces Command, Operational Implications of Effects-based Operations (EBO), JWFC Doctrine Pamphlet 7 (Washington DC: 17 November 2004) 8.

²⁶ Ibid., 1.

Headquarters Core Element (SJFHQ-CE).²⁷ Effects-based products and analysis currently serve as input to combatant commander's staff planning within each AOR.²⁸ The benefits of an effects-based approach to campaign planning at the GCC level is described by the JFCOM as

...“linking of operational objectives to tactical-level actions through a specified set of effects; systematic situational awareness and understanding of the adversary and operational environment enabled by a system of systems analysis; synchronization of ends, ways, and means using a harmonized application of the instruments of national power; command and staff interaction across multiple echelons enabled by significant collaboration capabilities; enhanced unity of effort between joint, multinational, and interagency organizations; and a more accurate, rigorous assessment of the attainment of campaign objectives focused on system behavior rather than discrete task accomplishment.”²⁹

EBO is emerging as a valuable instrument for interagency coordination at the GCC level. It allows the GCC to focus interagency organizations and facilitate how they participate in a campaign plan or theater security cooperation plan (TSCP). EBO is a valuable medium in which interagency organizations can participate versus the complexity of the military planning process, but it does not support all aspects of the current war on terror.

Why Doesn't Effects-Based Operations Support the SOF Commander?

Although the effects-based methodology provides a different analysis of a nation-state and is complementary with the Joint Operational Planning and Execution System, it does not fully address the current fight against global terrorism networks and the mechanisms that support them.³⁰ Specifically, the PMESII construct within the ONA does not take into

²⁷ Ibid. In the Documents preface, it describes effects-based operations as a collaborative effort between USJFCOM's J-7, J-9 and the SJFHQ-CE. It states that the “aspects of the evolving EBO concept are being employed in on-going operations around the world”. The SJFHQ is a full time, joint C2 element that is part of the geographical combatant commander's staff.

²⁸ Ibid., 6.

²⁹ Ibid., 6.

³⁰ Joint Chiefs of Staff, Joint Operation Planning and Execution System (JOPES), Volume I (Planning Policies and Procedures), CJCSM 3122.01 (Washington, DC: 14 July 2000), 1. The purpose of JOPES is described as

consideration the strengths and vulnerabilities associated with global terrorist organizations, which are generally not associated with a nation-state. The ONA process includes an analysis of an adversary's capability utilizing a system of systems approach through PMESII; an identification of an adversary's nodes and linkages within its systems; an examination of the adversary's systems to identify key nodes and vulnerabilities; and the creation of an effect-node-action-resource (ENAR) linkage that integrates the application of DIME.³¹ The result of the ONA process is a baseline database of an adversary nation-state's systems, organization, characteristics, and relationships.³² This resulting baseline ONA effort "produces a nodal analysis and ... forms the basis for linking nodes to effects, actions to nodes, secondary and unintended effects to actions and resources. Joint force planners use this database-updated when a crisis is imminent-to develop, compare, and recommend effects-based courses of action."³³ These nation-state characteristics and data serve as input to each representative GCC contingency plans, theater security cooperation plan, and prioritized adversarial nations within a specific AOR.³⁴ Therefore, PMESII within the GCC structure is not suitable to thoroughly analyze global terrorism networks. In order to

"... sets forth planning policies and procedures to govern the joint activities and performance of the Armed Forces of the United States. It provides military guidance for the exercise of authority by combatant commanders and other joint force commanders and prescribes doctrine and selected joint tactics, techniques, and procedure for joint operations and training. It provides military guidance for use by the US Armed Forces in preparing their appropriate plans."

³¹ William Fleiser, "Operational Net Assessment: Implications and Opportunities for SOF." Special Warfare. Volume 15, Number 4. (December 2002): 13. In addition to Fleiser's research, the effect-node-action-resource linkage is implied from Joint Forces Command, Doctrinal Implications of Operational Net Assessment (ONA), JWFC Doctrine Pamphlet 4 (Washington DC: 24 February 2004).

³² Joint Forces Command, Doctrinal Implications of Operational Net Assessment (ONA), JWFC Doctrine Pamphlet 4 (Washington DC: 24 February 2004) 10.

³³ Ibid.

³⁴ Ibid. "The ONA baseline process begins when the CCDR designates a focus are (a specific nation, region, contingency, or entity) within the AOR. The SJFHQ considers the CCDR's general guidance regarding the area; the Defense Planning Guidance, Joint Strategic Capabilities Plan, and the Theater Security Cooperation Plan; existing OPLANS, CONPLANS, and intelligence estimates; and recent events and trends in theater. From these considerations, the SJFHQ identifies a likely source of conflict (or contingency), defines what the focus is, and presents it to the CCDR for guidance and/or approval."

maximize the benefits of EBO in the fight against terrorism, SOF commanders must consider modification of the ONA process through restructuring PMESII.

Proponents of the current EBO concept can argue that within the PMESII construct, many of the strengths and support mechanisms of terrorism are analyzed by the ONA process. These strengths include; media, criminal, para-military forces, banking, insurgents, terrorism, and culture.³⁵ These components are all structured as sub-systems of PMESII, but the PMESII construct is not inclusive of all support mechanisms of terrorism and is confined within geographical boundaries of nation-states and the geographical combatant commands. Global terrorism networks have separate strengths, weaknesses, and vulnerabilities that are not identified under the PMESII construct. Although PMESII does identify some of the attributes of global terrorism, it does not focus on creating a net assessment of these terrorist organizations. This nation-state and geographical orientation prevents SOF from utilizing EBO as an effective tool against global terrorism networks.

How can Effects-Based Operations Change to Support the SOF Commander?

Effects-Based Operations and more specifically the ONA process have two functions that preclude it from addressing global terrorism. First of all, the PMESII construct does not account for the strengths and support mechanisms of terrorism, but rather the analysis of nation-state systems. Secondly, the GCC structure confines the ONA analysis to definitive geographical boundaries within each GCC AOR. In order to overcome these problems, the SOF commander must make changes to the PMESII structure; establish an ONA process within the SOF community; and integrate these modifications into an SOF EBO process.

³⁵ Joint Forces Command, *Commander's Handbook for an Effects-based Approach to Joint Operations*, Joint Warfighting Center (Washington DC: Date TBD) 101. Under Affinity Groups in Figure E-6, Social systems identify criminals, insurgents, and terrorist as part of the social structure identified.

First of All, Modify Effects-Based Operations to Focus on Global Terrorism

Networks. The SoSA now focuses on the support structures of nation-states due to the PMESII construct.³⁶ But, the support structure for global terrorism is different than nation-states and PMESII should be modified to reflect the tenets that support terrorism. A viable structure to modify the PMESII construct to model is outlined by the Secretary of Defense within the National Defense Strategy.³⁷ Within the NDS, Secretary Rumsfeld categorized this terrorism support broadly as “ideological support, leadership, foot soldiers, safe havens, weapons, funding, communications and movement, and access to targets.”³⁸ This paper recommends changing the composition of the PMESII construct to represent these terrorist elements and refer to them as *Terrorism Functions*.

- “Ideological support” becomes *Ideology* and includes the aspects of recruitment, indoctrination, dissemination, values, and interpretations of radical ideology.
- “Leadership” becomes *Leadership/Command, Control, and Communications (C3)* and includes leadership personalities, values, and motivating factors as well as command, control, and communications of terrorist organizations through both technical and non-technical methods.
- “Foot soldiers” becomes *Human Capital* and includes recruiting, fighters, trainers, and methods as well as the human support network utilized to operate a terrorism network.
- The aspects of “Safe haven” are imbedded in the *Global Reach/Bases of Operation* function.

³⁶ Joint Forces Command, Doctrinal Implications of Operational Net Assessment (ONA), JWFC Doctrine Pamphlet 4 (Washington DC: 24 February 2004) 11.

³⁷ National Defense Strategy of the United States of America, (Washington DC: March 2005) 8.

³⁸ Ibid.

- “Weapons” becomes *Armament* to include small arms through weapons of mass destruction as well as destructive technological means.
- “Funding” becomes *Finances* and includes both direct and indirect methods and structures of finance.
- The aspect of “Communications” is embedded in the *Leadership/Command, Control, and Communications (C3)* function and “Movement” is embedded in the *Global Reach/Bases of Operation* function.
- Lastly, “Access to targets” becomes *Global Reach/Bases of Operation* including the bases from which terrorist operate in both physical and virtual domains; the projection of capabilities both in the US and abroad; and the magnitude of the effect they intend.

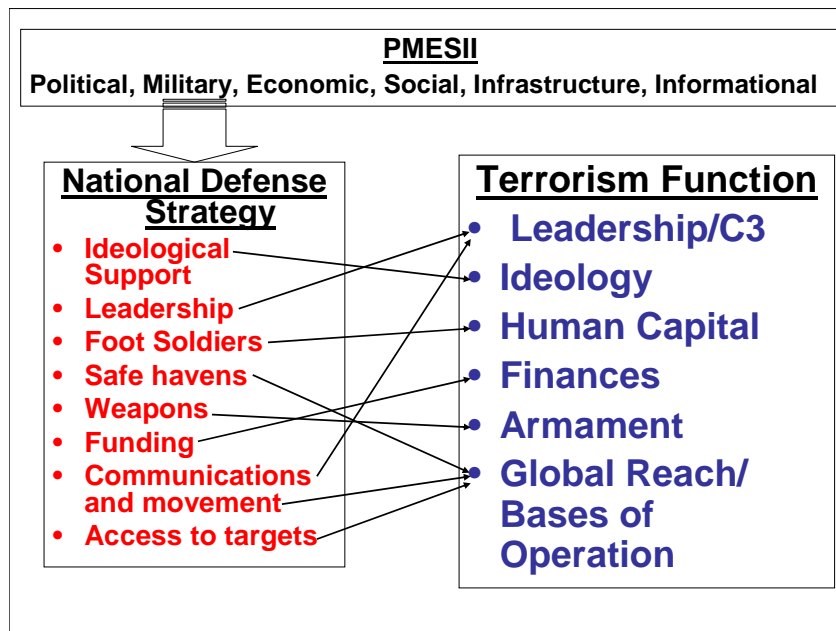


Figure 3. Transition to Terrorism Functions.

Further examination of the functions will identify the strengths, weaknesses, and vulnerabilities on which we can capitalize within this construct. This reconfiguration of

PMESII to terrorism functions will result in a complete view of the support structure for global terrorism networks and form the basis of the systems analysis within SOF.

Secondly, Focus Effects-Based Operations on Global Terrorism Networks. The SOF commander should prioritize efforts within the ONA to focus on global terrorist networks that present the greatest threat. Then, the commander should conduct an analysis of terrorist systems utilizing the terrorism functions construct. This analysis will allow SOF to utilize a systems methodology to conduct an independent analysis of terrorist networks; identify and understand their relationships, dependencies, and vulnerabilities; and identify leverage points where SOF can affect terrorist capabilities, decision making, and actions. By prioritizing the focus of SoSA within global terrorist networks rather than nation-states, SOF will assess and analyze these adversaries differently than we are considering now.

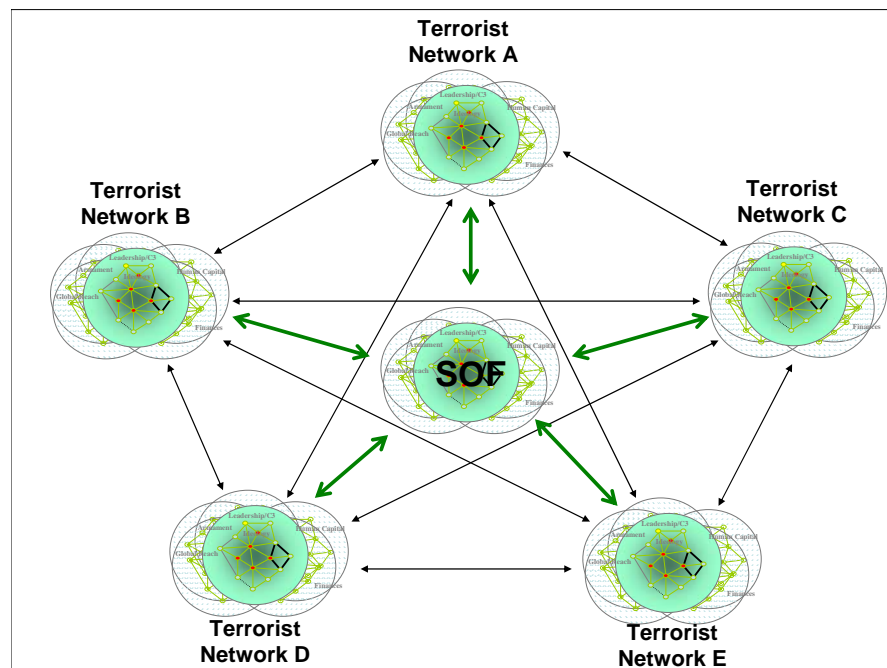


Figure 4. Systems of Systems Analysis of Terrorist Networks³⁹

³⁹ Joint Forces Command, *Operational Implications of Effects-based Operations (EBO)*, JWFC Doctrine Pamphlet 7 (Washington DC: 17 November 2004) 10. Figure 4 is modified from the Systems of Systems diagram. Figure 3, JWFC Doctrine Pam 7.

Thirdly, Create an Effects-Based Operations Cell within SOF. The SOF commander should model the EBO cell within SOF on the Information Superiority Group (ISG) outlined within the Standing Joint Force HQ SOP. However, the commander should scale the positions from the ISG design to only conduct the ONA and effects assessment functions.⁴⁰ These functions are critical in the effects-based approach outlined by this paper. The other functions (Operations, Plans, Knowledge Management, and Logistics) deal largely with the requirements of coordination within the GCC command and staff structure.⁴¹ The SOF EBO cell structure should consist of an EBO supervisor, an ONA section, and an effects assessment section. The ONA section should contain a supervisor and the SoSA analysts required for the six terrorism functions. The effects assessment section should contain a supervisor and planner to analyze effects of DIME actions and integrate feedback. This structure will provide a functioning effects-based approach within SOF.

This SOF EBO cell should organize within either the J-2 or J-3 staff sections, but have coordination and interaction with all staff sections through integration in the joint planning group. The cell will perform a nodal analysis and effects development linking nodes to effects.⁴² This will create effect-node-action-resource linkages that will diagram the terrorism support network.⁴³ These effects-nodes-action-resources linkages are the final step of the ONA process and identify a set of actions for inclusion in counterterrorism operations.⁴⁴ In this model, the key nodes are identified as actionable intelligence and resourced by the instruments of DIME. Predominately diplomatic, informational, and

⁴⁰ Joint Forces Command, U. S. Joint Forces Command Standard Operating Procedure & Tactics, Technique, and Procedures for the Standing Joint Force Headquarters (Draft), (Washington DC: 14 July 2004) 2-2.

⁴¹ Ibid.

⁴² Joint Forces Command, Doctrinal Implications of Operational Net Assessment (ONA), JWFC Doctrine Pamphlet 4 (Washington DC: 24 February 2004) 10.

⁴³ Ibid.

⁴⁴ Ibid.

economic in nature, SOF and interagency integration facilitate the execution of DIME against these key nodes.⁴⁵ The actions against these key nodes will create a significant effect on global terrorism networks.

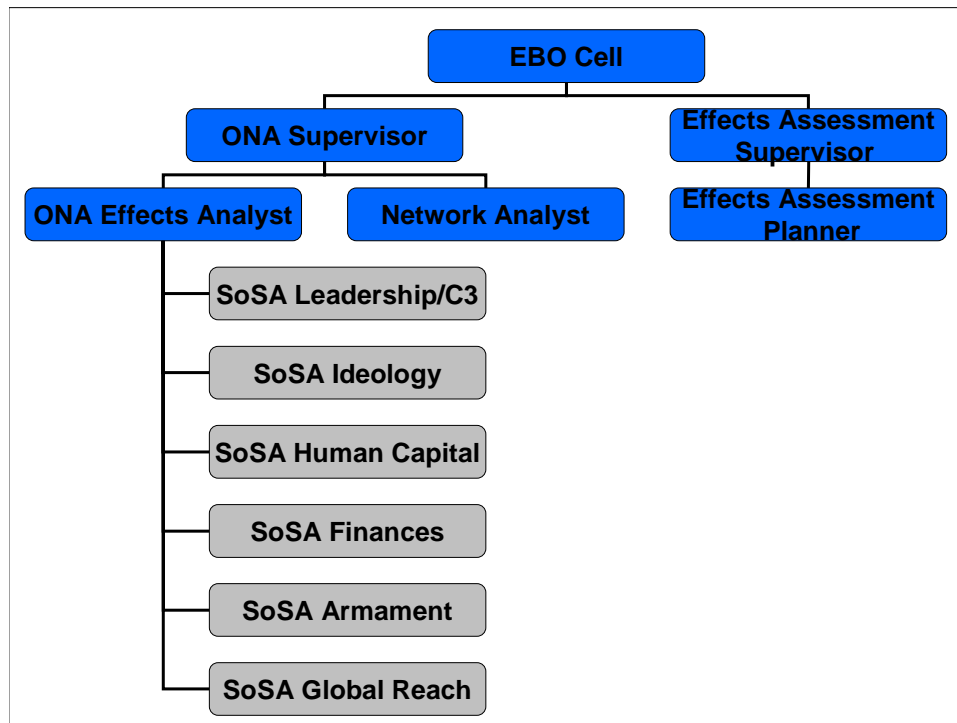


Figure 5. EBO Cell from the SJFHQ Information Superiority Group.⁴⁶

Fourthly, Integrate SOF Effects-Based Operations into JIPB. Joint intelligence Preparation of the Battlefield (JIPB) and ONA are different, but complementary. The Joint Forces Command describes the differing characteristics between JIPB and EBO as “JIPB is an analytical process that supports the JFC’s decision cycle. It includes defining the total battlespace and describing the battlefield effects. JIPB focuses primarily on the enemy military systems, while SoSA is intended to increase awareness and understanding by

⁴⁵ SOF is uniquely integrated into the interagency process and would provide a viable conduit to facilitate the flow of effects, nodes, and actions and assessment.

⁴⁶ Joint Forces Command, U. S. Joint Forces Command Standard Operating Procedure & Tactics, Technique, and Procedures for the Standing Joint Force Headquarters (Draft), (Washington DC: 14 July 2004) 2-2. Modified from the ISG structure.

providing a broader perspective across all PMESII systems.”⁴⁷ By employing a different set of collection methods across the collaborative information environment, an effects based approach creates a common picture of the operational environment for the national interagency structure.⁴⁸ These different collection means significantly differentiate the military based JIPB process and the interagency based EBO functionality as well as their end products. The comparison of differences between JIPB and EBO is described as “a very dissimilar view of the adversary with respect to its intent, capabilities, and potential COAs.”⁴⁹ The creation of an independent view of an adversary through the ONA process does not replace the current functions conducted by intelligence agencies, operational planning, or logistical processes, but it does support effects-based planning, mission type planning orders, and other existing joint planning processes.⁵⁰ ONA is especially valuable through the persistent and habitual collaboration among the subject matter experts who develop and maintain the baseline ONA products.⁵¹ These subject matter experts come from a wide variety of interagency organizations, the centers of excellence, and the military.⁵²

Operational net assessment characteristics are different than JIPB because ONA focuses subject matter expertise within each functional area; looks at both classified and unclassified mediums; and populates an automated database with organizations,

⁴⁷ Joint Forces Command, Operational Implications of Effects-based Operations (EBO), JWFC Doctrine Pamphlet 7 (Washington DC: 17 November 2004) 20.

⁴⁸ Joint Forces Command, Operational Implications of Effects-based Operations (EBO), JWFC Doctrine Pamphlet 7 (Washington DC: 17 November 2004) 20.

⁴⁹ Joint Forces Command, Operational Implications of Effects-based Operations (EBO), JWFC Doctrine Pamphlet 7 (Washington DC: 17 November 2004) 20.

⁵⁰ Joint Forces Command, Commander’s Handbook for an Effects-based Approach to Joint Operations, Joint Warfighting Center (Washington DC: Date TBD) 96.

⁵¹ Ibid.

⁵² Ibid.

characteristics, and complex relationships.⁵³ Whereas JIPB looks at a terrorist network as a linear hierarchical structure of separate entities, the ONA process analyzes terrorist networks as a series of interrelated systems. This ONA view encompasses the entire spectrum of the global terrorism and focuses within the parameters of the SOF commander's intent.

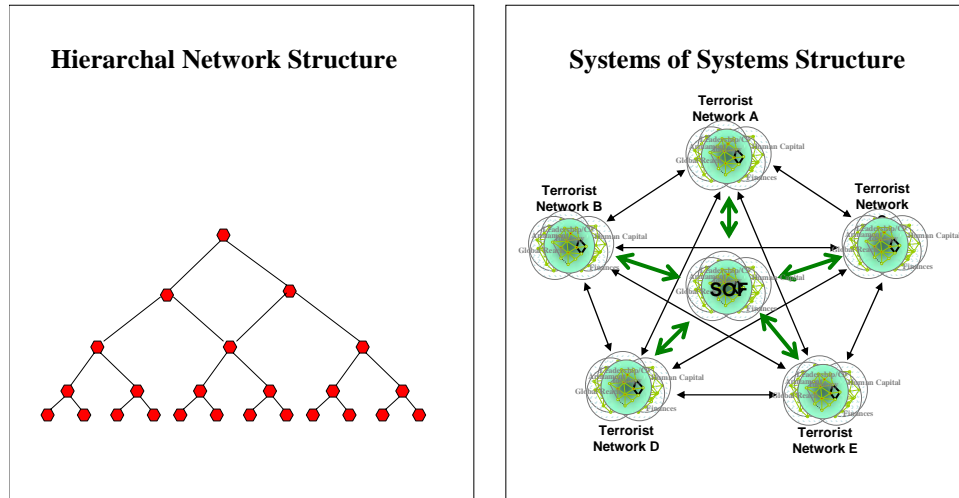


Figure 6. Hierarchal Versus Systems Structure.⁵⁴

Additionally, SOF EBO enhances the most important functions of JIPB described by JP 2-0 Joint Intelligence as “assisting the JFCs and their staffs in visualizing the battlespace...assessing adversary capabilities and will, identifying the adversary's centers of

⁵³ Joint Forces Command, *Commander's Handbook for an Effects-based Approach to Joint Operations*, Joint Warfighting Center (Washington DC: Date TBD) 97-98.

⁵⁴ Joint Forces Command, *Operational Implications of Effects-based Operations (EBO)*, JWFC Doctrine Pamphlet 7 (Washington DC: 17 November 2004) 10. Figure 6 is modified from the Systems of Systems diagram. Figure 3, JWFC Doctrine Pam 7.

gravity, and discerning the adversary's probable intent.”⁵⁵ The ONA process performs these functions independently, but is consistent with JIPB throughout the joint intelligence cycle.⁵⁶

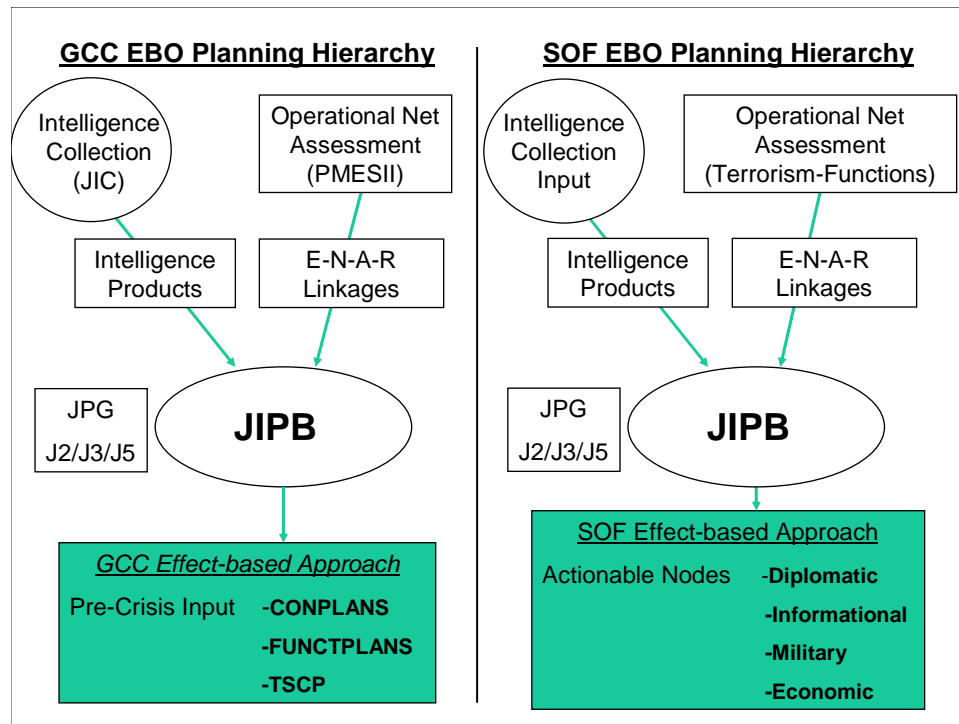


Figure 7. EBO Integration into JIPB

Lastly, Implement SOF Effects-Based Operations Globally. A new EBO construct would integrate a SOF terrorism analyst into the EBO Cell established within each GCC SJFHQ.⁵⁷ This analyst will collaborate with the ongoing PMESII and SoSA within each GCC. The analyst will identify and draw terrorism-specific data points to populate the SOF EBO database as well as greatly increase the connectivity of Theater Special Operations Commanders (TSOC) and other SOF within the EBO process. When the SOF EBO

⁵⁵ Joint Chiefs of Staff, Doctrine for Intelligence Support to Joint Operations, Joint Pub 2-0 (Washington, DC: 09 March 2000), I-1.

⁵⁶ Ibid., II-1. Joint Publication 2-0 describes the intelligence cycle as “composed of six phases: planning and direction; collection; processing and exploitation; analysis and production; dissemination and integration; and evaluation and feedback.”

⁵⁷ Joint Forces Command, U. S. Joint Forces Command Standard Operating Procedure & Tactics, Technique, and Procedures for the Standing Joint Force Headquarters (Draft), (Washington DC: 14 July 2004) 2-5. The SJFHQ SOP gives overall responsibility and ONA development to the SFJHQ (CE) within each of the GCCs.

structure is established, it will connect this knowledge based architecture into a global web portal allowing the exchange of information amongst the collaborative information participants. This will create a global terrorism SoSA that can transcend geographical boundaries and facilitate coordination between regions; promote intelligence sharing, product development, and data management; and develop a terrorism database that is focused on global terrorist networks. The synergies achieved will connect all SOF commands, resulting in an efficiency and unity of effort across the SOF community.

Problems and Friction

There are several problems in applying an effects-based approach within the SOF community. These difficulties are generally human, technical, environmental, and training in nature. Identifying these problems early in the process and addressing them prior to the implementation of EBO will significantly reduce this friction. First of all, it will be difficult to recruit the human capital and functional experts to operate within the ONA collaborative environment.⁵⁸ These individuals require a unique skill set and functional expertise within a very specific, but high demand terrorism field. Another problem is gaining the assistance and input of institutions beyond the Department of Defense's influence.⁵⁹ These institutions include national, multinational, and non-governmental organizations and centers of excellence that are functionally focused on global terrorism. Additional challenges include the development of advanced EBO software and hardware to include visualization, collaboration, and synchronization tools that can better interface with current joint

⁵⁸ Joint Forces Command, Doctrinal Implications of Operational Net Assessment (ONA), JWFC Doctrine Pamphlet 4 (Washington DC: 24 February 2004) 22.

⁵⁹ Ibid.

operational programs and communications mediums.⁶⁰ Operational tempo is also a challenge due to the nature of SOF forces currently at war. Some commanders will not want to apply new concepts while fully engaged in the fight. Lastly, the biggest challenge is instituting the required training within our military culture to embrace the concept of EBO within a global terrorism environment. EBO is more complex than our traditional force on force military confrontations and requires a broader understanding of adversary systems as well as how we influence these systems through DIME actions.⁶¹ Overcoming these problems and friction has the potential to allow SOF to produce an independent assessment of effects that are focused on system behavior rather than specific task accomplishment. Reorienting SOF assets on these terrorist systems will facilitate the utilization of SOF EBO as an important means to combat global terrorism.⁶²

Conclusion

In conclusion, EBO is operational within the GCCs, but is not suitable to facilitate SOF operations in the War on Terror. Some aspects of EBO do consider regional terrorism, but the SoSA does not fully incorporate the tenets of global terrorist networks and is bounded by geographical boundaries. With modification to the PMESII construct, EBO is an operational tool that could significantly add to our success in combating global terrorism. With a modified PMESII construct, the creation of an EBO cell, and integration into the SOF community, EBO would significantly enhance the synchronization and execution of interagency actions. EBO could provide a different analytical view of global terrorist networks and identify key nodes for interagency action as well as integrate the actions and

⁶⁰ Joint Forces Command, Operational Implications of Effects-based Operations (EBO), JWFC Doctrine Pamphlet 7 (Washington DC: 17 November 2004) 24.

⁶¹ Ibid., 26.

⁶² Ibid., 7.

effects of SOF and interagency organizations. These modifications will enable SOF to focus EBO on global terrorism and conduct EBO beyond the geographical boundaries and territorial AORs of the GCCs. SOF EBO will facilitate interagency coordination, unity of effort, policy changes, and communications methods that allow the efficient execution of counter terrorist operations against global terrorism networks.

BIBLIOGRAPHY

David E. Davis. <david.davis@nwc.navy.mil> “Van Riper and Deptula e-mails” [Email to Thomas McFadyen <thomas.mcfadyen@nwc.navy.mil>] 31 January 2006.

Deptula, David A. “Effects-Based Operations: Change in the Nature of Warfare.” Defense and Airpower Series. 2001. <<http://www.aef.org/pub/psbook.pdf>> [05 January 2006].

Fleser, William. “Operational Net Assessment: Implications and Opportunities for SOF.” Special Warfare. Volume 15, Number 4. (December 2002): 12-17.

Melinger, Philip S. “The Origins of Effects-Based Operations.” Joint Force Quarterly. Edition 35 (October 2004): 116-122.

National Defense Strategy of the United States of America. Washington DC: March 2005. <<http://www.defenselink.mil/news/Mar2005/d20050318nds1.pdf>> [12 December 2005].

National Strategy for Combating Terrorism. Washington, DC: February 2003. <<http://www.whitehouse.gov/news/releases/2003/02/20030214-7.html>> [27 January 2006].

U. S. Joint Chiefs of Staff. Doctrine for Joint Intelligence Support to Joint Operations. Joint Pub 2-0. Washington, DC: 09 March 2000.

U. S. Joint Chiefs of Staff. Doctrine for Joint Operations. Joint Pub 3-0. Washington, DC: 10 September 2001.

U. S. Joint Chiefs of Staff. Joint Operation Planning and Execution System (JOPES), Volume I (Planning Policies and Procedures). CJCSM 3122.01. Washington, DC: 14 July 2000.

U. S. Joint Forces Command. Doctrinal Implications of Operational Net Assessment (ONA). JWFC Doctrine Pamphlet 4. Washington DC: 24 February 2004.

U. S. Joint Forces Command. Operational Implications of Effects-based Operations (EBO). JWFC Doctrine Pamphlet 7. Washington DC: 17 November 2004.

U. S. Joint Forces Command. U. S. Joint Forces Command Standard Operating Procedure & Tactics, Technique, and Procedures for the Standing Joint Force Headquarters (Draft). Washington DC: 14 July 2004.

U. S. Joint Forces Command. Commander’s Handbook for an Effects-based Approach to Joint Operations. Joint Warfighting Center. Washington DC: Date TBD.